

WHAT IS CLAIMED IS:

1. A computer system for a client network address translation (NAT) pool, said computer system comprising:

a memory pool;

5 a control block, said control block constructed and arranged to contain at least one parameter, said control block containing an address for said memory pool;

a pool header for said memory pool, said pool header having a pointer; and

10 at least one subpool header, said subpool header being pointed to by said pointer of said memory pool, said at least one subpool header having a pointer to a subsequent subpool header, said subpool header further having subpool memory of fixed block storage having at  
15 least one fixed block that corresponds to a connection block used for server load balancing and are populated with client NAT addresses;

wherein an individual said connection block may be either free or allocated, but said client NAT addresses  
20 remain allocated in said subpool memory until all of said subpool memory is freed.

2. A system as in Claim 1, wherein said control block has pool name property.

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3. A system as in Claim 1, wherein said control block has a first IP address property.

4. A system as in Claim 1, wherein said control  
30 block has a last IP address property.

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5. A system as in Claim 1, wherein said control block has a net mask property.

5 6. A system as in Claim 1, wherein said control block has a memory pool address property.

7. A system as in Claim 1, wherein said control block has an initial number of connection blocks  
10 property.

8. A system as in Claim 1, wherein said control block has a maximum number of connection blocks property.

15 9. A system as in Claim 1, wherein said control block has an interval list address.

10. A system as in Claim 9, wherein said interval list address has at least one interval list element.

20 11. A system as in Claim 10, wherein said interval list element has a pointer to a next interval list element.

25 12. A system as in Claim 10, wherein said interval list element has a pointer to a previous interval list element.

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13. A system as in Claim 10, wherein said interval list element has a pointer to the allocated subpool for said interval list element.

5        14. A system as in Claim 10, wherein said interval list element has an IP address of a first client NAT address in said interval list element.

10       15. A system as in Claim 10, wherein said interval list element has a port number of a first client NAT address in said interval list element.

15       16. A system as in Claim 10, wherein said interval list element has an IP address of a last client NAT address in said interval list element.

17. A system as in Claim 10, wherein said interval list element has a port number of a last client NAT address in said interval list element.

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18. A system as in Claim 10, wherein said interval list element has count of the number of client NAT addresses in said interval list element.

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19. A method of allocating memory for a client network address translation (NAT) pool, said method comprising the steps of:

creating an internal control block that represents  
5 said client NAT address range;

creating a main pool header;

allocating at least one subpool header having a  
subpool memory block containing one or more fixed-length  
connection blocks that are allocated within said subpool  
10 memory block, said connection blocks containing client  
NAT addresses, said subpool header being referenced by  
said main pool header;

wherein said client NAT address ranges remains  
allocated within said subpool memory until the entire  
15 subpool is freed.

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20. A memory allocation system for a computer, said system comprising:

a memory pool;

a control block, said control block constructed and  
5 arranged to contain at least two parameters; one of said  
parameters for said control block being an address for  
said memory pool;

means for accepting user input parameters, said  
input parameters being contained in said control block;  
10 and

means for creating a client network address  
translation subpool within said memory pool, said means  
for creating said client NAT subpool including means for  
allocating client NAT address range, means for allocating  
15 addresses within said client NAT address range, means for  
freeing said addresses in said client NAT address range,  
and means for deallocating said client NAT address range;

wherein said client NAT address range remains  
allocated within said subpool until all of said addresses  
20 within said client NAT address range have been freed.

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